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Comparison of BitTorrent clients

From Wikipedia, the free encyclopedia
(Redirected from Comparison of BitTorrent software)

"BitTorrent client" redirects here. For the software application by Bram Cohen, see BitTorrent (software).

The following is a general comparison of BitTorrent clients, which are computer programs designed for peer-to-peer file sharing using the BitTorrent protocol.[1]

The BitTorrent protocol coordinates segmented file transfer among peers connected in a swarm. A BitTorrent client enables a user to exchange data as a peer in one or more swarms. Because BitTorrent is a peer-to-peer communications protocol that doesn't need a server, the BitTorrent definition of *client* differs from the conventional meaning expressed in the client–server model.[1]

Bram Cohen, author of the BitTorrent protocol, made the first BitTorrent client, which he also called BitTorrent, and published it in July 2001.[2]

Many BitTorrent programs are open-source software; others are freeware, adware or shareware. Some download managers, such as FlashGet and GetRight, are BitTorrent-ready. Opera, a web browser, can also transfer files via BitTorrent.

In 2007, four BitTorrent clients were discovered to be Trojan horses that attempt to infect Windows with malware.[3][4][5] Those clients—BitRoll, GetTorrent, Torrent101, and TorrentQ—are excluded from the comparison tables below. In 2013, Thunder Networking Technologies admitted that some of their employees surreptitiously distributed a Trojan horse with certain releases of Xunlei, the company's BitTorrent-ready download manager.[6][7] Xunlei is included in the comparison tables.

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Applications [edit]

General [edit]

Name	Developer	Software license	Latest stable software release
ABC	various	Python Software Foundation License	3.1 (October 2, 2005; 8 years ago[8]) [±]
Acquisition	Acquisition	Proprietary	2.2 (v223) (November 19, 2010; 3 years ago) [±]
BitComet	BitComet Development Group	Proprietary	1.37 (December 31, 2013; 4 months ago) [±][9]
BitLet	various	Proprietary	?
BitLord	House of Life	GPL (License violation)[10] **installs WhenU adware**	Windows: 2.3.2 (August 28, 2013; 8 months ago) [±] Mac OSX: 2.2 (November 21, 2012; 17 months ago) [±]
Bits on Wheels	Bits on Wheels	Proprietary	1.0.6 (November 19, 2005; 8 years ago) [±]
BitSpirit	ByteLinker Inc.	Proprietary	3.6.0.550 (December 29, 2010; 3 years ago[11]) [±]
BitTornado	John Hoffman	MIT	0.3.17 (October 19, 2006; 7 years ago) [±]
			Windows:

BitTorrent	Bram Cohen	Proprietary, Adware	7.9.1 (Build 30889) (April 18, 2014; 24 days ago) [±][12] Mac OS X: 7.4.1 (Build 30291) (November 1, 2013; 6 months ago) [±][13]
BitTyrant	University of Washington	GPL	1.1.1 (September 7, 2007; 6 years ago[14]) [±]
Blog Torrent	Downhill Battle	GPL	0.92 (April 20, 2005; 9 years ago) [±]
Deluge	various	GPL	1.3.6 (February 25, 2013; 14 months ago) [±]
FlashGet	Trend Media	Proprietary	3.7.0.1218 (November 8, 2012; 17 months ago[15]) [±]
Folx	Eltima Software	Proprietary	3.0.870 (October 9, 2013; 6 months ago) [±]
Free Download Manager	alervd	GPL	3.9.4 (Build 1468) (April 29, 2014; 13 days ago) [±][16]
FrostWire	The FrostWire Project	GPL **Installs Ask.com toolbar**	5.6.9 (December 2, 2013; 5 months ago) [±]
KGet	KDE	GPL	4.13 (April 16, 2014; 26 days ago) [±][17]
KTorrent	Joris Guisson, Ivan Vasić	GPL	4.3.1 (January 17, 2013; 15 months ago[18]) [±]
Lftp	Alexander V. Lukya	GPL	4.4.15 (January 21, 2014; 3 months ago) [±]
LimeWire	Lime Wire LLC	GPL	5.5.16 (September 30, 2010; 3 years ago) [±]
Meerkat Bittorrent Client	47 Software	Proprietary	1.5.8 (August 28, 2011; 2 years ago) [±]
Miro	Participatory Culture Foundation	GPL	6.0 (April 16, 2013; 12 months ago) [±][19]
MLDonkey	MLDonkey Project	GPL	3.1.5 (March 22, 2014; 51 days ago[20]) [±]
µTorrent	Ludvig Strigeus	Proprietary, Adware	**Microsoft Windows** 3.4.1 (Build 31139) (May 7, 2014; 5 days ago) [±][21][22] **OS X for Intel** 1.8.4 (Build 30291) (November 1, 2013; 6 months ago) [±][23][24][25] **OS X for PPC** 1.6.5 (Build 27624) (July 25, 2012; 21 months ago) [±][23][26][27]
OneSwarm	University of Washington	GPL	0.7.5 (May 23, 2011; 2 years ago[28]) [±]
Opera	Opera Software	Proprietary	**Windows, OS X** 21.0.1432.57 (May 6, 2014; 6 days ago[29]) [±] **Windows (Presto)** 12.17 (April 23, 2014; 19 days ago[30]) [±] **Linux, FreeBSD** 12.16 (July 4, 2013; 10 months ago[31]) [±]
qBittorrent	Christophe Dumez	GPL	3.1.9 (March 1, 2014; 2 months ago) [±][32]
rTorrent	Jari Sundell	GPL	rTorrent 0.9.2 / libTorrent 0.13.2 (23 October 2012; 18 months ago) [±][33]
Shareaza	Shareaza Development Team	GPL	2.7.4.0 (March 30, 2014; 43 days ago[34]) [±]
SymTorrent	Imre Kelényi	GPL	1.50 (March 11, 2011; 3 years ago[35]) [±]
Tomato Torrent	Sarwat Khan	BitTorrent Open Source License	1.5.1 (October 27, 2007; 6 years ago[36]) [±]
Tonido Torrent	CodeLathe	Proprietary	3.62.0.21836 (December 31, 2012; 16 months ago) [±]
Torrent Swapper	John Freemonth	MIT	1.0 (August 10, 2006; 7 years ago[37]) [±]
TorrentFlux	various	GPL	2.4 (June 18, 2008; 5 years ago[38]) [±]
Transmission	various	GPL/MIT	2.82 (8 August 2013; 8 months ago) [±][39]
Tribler	The Tribler Team	LGPL	6.2.0 (August 1, 2013; 9 months ago) [±]
Vuze (formerly Azureus)	Vuze	Proprietary (platform), GPL (core engine),	5.3.0.0 (February 7, 2014; 3 months ago) [±][40]

Azureus)		Adware	
Wyzo	Radical Software	Proprietary	3.6.4 (September 24, 2010; 3 years ago) [±]
Xunlei	Thunder Networking Technologies]	Proprietary	7.9.13.4666 (Windows) 2.4.0 (Mac OS X) 1.3 (Android) (21 November 2013; 5 months ago (Windows) 27 February 2014; 2 months ago (Mac OS X) 23 August 2012; 20 months ago (Android)) [±][41]
Name	**Developer**	**Software license**	**Latest stable software release**

Operating system support [edit]

BitTorrent client	Windows	Mac OS X	Linux	BSD	iOS	Android	Other
ABC	Yes	No	Yes	No	No	No	No
Acquisition	No	Yes	No	No	No	No	No
BitComet	Yes	No	No	No	No	No	No
BitLet	web	web	web	No	No	No	No
BitLord	Yes	Yes	No	No	No	No	No
BitSpirit	Yes	No	No	No	No	No	No
BitTornado	Yes	Yes	Yes	Yes	No	No	No
BitTorrent	Yes	Yes	Yes	No	No	Yes	No
Bits on Wheels	No	Yes	No	No	No	No	No
BitTyrant	Yes	Yes	Yes	Yes	No	No	No
Blog Torrent	Yes	Yes	No	No	No	No	No
Deluge	Yes	Yes	Yes	Yes	No	No	Solaris
FlashGet	Yes	No	No	No	No	No	No
Folx	No	Yes	No	No	No	No	No
Free Download Manager	Yes	No	No	No	No	No	No
Frostwire	Yes	Yes	Yes	Yes	No	Yes	No
KGet	No	Yes	Yes	Yes	No	No	No
KTorrent	No	Yes	Yes	Yes	No	No	No
LimeWire	Yes	Yes	Yes	Yes	No	No	Yes
Meerkat Bittorrent Client	Yes	No	No	No	No	No	No
Miro	Yes	Yes	Yes	Yes	No	No	No
MLDonkey	Yes	No	Yes	Yes	No	No	Solaris, MorphOS
µTorrent	Yes	Yes	web	No	No	Yes	No
OneSwarm	Yes	Yes	Yes	No	No	No	No
Opera	Yes	Yes	Yes	Yes	No	Yes	Solaris
qBittorrent	Yes	Yes	Yes	Yes	No	No	eComStation
rTorrent	Yes Cygwin[42]	Yes	Yes	Yes	No	No	Solaris
Shareaza	Yes	No	No	No	No	No	No
SymTorrent	No	No	No	No	No	No	Symbian
Tomato Torrent	No	Yes	No	No	No	No	No
Tonido	Yes	Yes	Yes	Yes	No	No	No
Torrent Swapper	Yes	Yes	Yes	Yes	No	No	No
TorrentFlux	Yes	Yes	Yes	Yes	No	No	No
Transmission	Yes as an unofficial build	Yes	Yes	Yes	No	No	Solaris, OpenWrt
Tribler	Yes	Yes	Yes	Yes	No	No	No
Vuze	Yes	Yes	Yes	Yes	No	No	No
Wyzo	Yes	Yes	No	No	No	No	No
Name	**Windows**	**Mac OS X**	**Linux**	**BSD**	**iOS**	**Android**	**Other**

Interface and programming [edit]

BitTorrent client	GUI	Web	CLI	Other	Programming language	Based on	IPv6	µTP
ABC	Yes	Yes	No	No	Python	BitTornado	buggy[Note 1]	No
					Objective-C			

Acquisition	Yes	No	No	No	Objective-C, Cocoa	Limewire	?	No
BitComet	Yes	Yes	Partial[43]	No	C++	-	No	No
BitLet	No	Yes	No	No	Java Applet	-	?	No
BitLord	Yes	No	No	No	Python, C++	libtorrent (Rasterbar)	Yes	No
BitTornado	Yes	No	Partial	No	Python	BitTorrent	Yes	No
BitTorrent 5, Mainline	Yes	No	Partial	No	Python	-	No	No
BitTorrent 6	Yes	Yes	Partial	No	C++	µTorrent	Yes	Yes
Bits on Wheels	Yes	No	No	No	Objective-C, Cocoa	-	Yes	No
BitTyrant	Yes	Yes	Partial	Telnet, XML over HTTP remote control API	Java, SWT	Azureus	Yes	No
Blog Torrent	Yes	No	No	No	?	?	?	No
Deluge	Yes	Yes	Yes	Daemon	Python, C++	libtorrent (Rasterbar)	Yes	No
FlashGet	Yes	No	No	No	?	?	No	No
Free Download Manager	Yes	Yes	Partial	No	C++	libtorrent (Rasterbar)	?	No
KGet	Yes	Yes	Partial[Note 2]	No	C++	-	Yes	No
KTorrent	Yes	Yes	Partial	No	C++	-	Yes	Yes[44]
LimeWire	Yes	No	No	No	Java	libtorrent (Rasterbar)	No	No
Meerkat Bittorrent Client	Yes	No	No	No	C++	-	No	No
Miro	Yes	No	No	No	C++	libtorrent (Rasterbar)	?	No
MLDonkey	Network GUI	Yes	Partial	Telnet	OCaml	-	No	No
µTorrent	Yes	Yes	No[45]	RESTful Web API[46]	C++[47]	-	Yes[48]	Yes[49]
OneSwarm	Partial	Yes	No-partial	No	Java	Azureus	Yes	No
Opera	Yes	No	No	No	C++	-	Yes	No
qBittorrent	Qt (toolkit)	Yes	Partial	No	C++	libtorrent (Rasterbar)	Yes	Yes[50]
rTorrent	No	Third Party	Yes	SCGI	C++	libTorrent (Rakshasa)	No[51]	No
Shareaza	Yes	Yes	Partial	No	C++	-	No	No
SymTorrent	Yes	No	No	No	?	?	?	No
Tomato Torrent	Yes	No	No	No	Cocoa	BitTorrent	No	No
Tonido Torrent	No	Yes	No	No	C++	libtorrent (Rasterbar)	No	No
Torrent Swapper	Yes	Yes	No	No	Python	BitTorrent	buggy[Note 1]	No
TorrentFlux	No	Yes	No	No	PHP	BitTornado	No	No
Transmission	Yes	Yes	Yes	Daemon, JSON-RPC over HTTP remote control API	C	-	Yes	Yes[52]
Tribler	Yes	Partial	Partial	No	Python,C++	libtorrent (Rasterbar)	No	Yes
Vuze (formerly Azureus)	Yes	Yes	Partial	Telnet, XML over HTTP remote control API	Java, SWT	-	Yes	Yes
BitTorrent client	**GUI**	**Web**	**CLI**	**Other**	**Programming language**	**Based on**	**IPv6**	**µTP**

Features I [edit]

BitTorrent client	Magnet URI	Preload Magnet metadata	Super-seeding	Embedded tracker	UPnP [Note 3]	NAT Port Mapping Protocol	NAT traversal [Note 4]	DHT [Note 5]	Peer exchange	Encryption	UDP tracker	LPD	Proxy server
ABC	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No
Acquisition	No	No	No	No	No	Yes	No	No	No	No	No	No	No
BitComet	Yes	No	Yes	Separate download	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	HTTP 1.1, SOCKS4-4a-5
BitLet	No	No	No	No	Yes	No	No	No	No	No	No	No	No
BitLord	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	HTTP 1.1, SOCKS4-4a-5
BitTornado	No	No	Yes	Yes[Note 6]	Yes	No	No	No	No	Yes	No	No	No
BitTorrent 5, Mainline	No	No	No	Yes[Note 6]	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes
BitTorrent 6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[Note 7]	Yes	Yes	Yes	HTTP(S), SOCKS4-5
Bits on Wheels	No	No	No	No	No	No	No	No	No	No	No	No	No
BitTyrant	No	No	Yes[citation needed]	Yes	Yes	Yes	Yes[Note 8]	Yes[Note 9]	Yes	Yes	No	No	No
Blog Torrent	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Deluge	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	HTTP(S), SOCKS4-5
FlashGet	No	No	No	No	No	No	No	Yes	No	Yes	No	No	No
Free Download Manager	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No
KTorrent	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial	HTTP, SOCKS4-5
LimeWire	Partial	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No
Meerkat Bittorrent Client	No	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	No	No
MLDonkey	Yes[53]	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No
µTorrent	Yes	Yes	Yes[54]	Yes[55]	Yes[56]	Yes	Yes[57]	Yes[Note 10]	Yes[Note 7]	Yes[58]	Yes	Yes[59]	HTTP(S), SOCKS4-5
OneSwarm	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Opera	No	No	No	Yes[60]	No	No	No	No	Yes[61]	No	No	No	No
qBittorrent	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	HTTP(S), SOCKS4-5
rTorrent	Yes[62]	No	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No[63]	No
Shareaza	Yes	No	No	No	Yes	Yes	N/A	Yes[Note 11]	Yes	No	Yes[Note 12]	No	No
SymTorrent	No	No	No	No	N/A	N/A	N/A	No	No	No	No	No	No
Tomato Torrent	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
Tonido Torrent	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	No	No
Torrent Swapper	No	No	Yes	Yes[Note 6]	Yes	No	No	No	Yes	No	No	No	No
TorrentFlux	No	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No
Transmission	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes[Note 13]	Yes	Yes	Yes	No[64]
Tribler	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No
Vuze (formerly	Yes	Yes	Yes	Yes	Yes	Yes	Yes[Note 14]	Yes[Note 9]	Yes	Yes	Yes	Plugin	HTTP(S)?, SOCKS4-

Azureus)													4a-5
Vuze Plus (Shareware)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[Note 15]	Yes[Note 9]	Yes	Yes	Plugin	HTTP(S)?, SOCKS4-4a-5
BitTorrent client	**Magnet URI**	**Preload Magnet metadata**	**Super-seeding**	**Embedded tracker**	**UPnP**	**NAT Port Mapping Protocol**	**NAT traversal**	**DHT**	**Peer exchange**	**Encryption**	**UDP tracker**	**LPD**	**Proxy server**

Features II [edit]

BitTorrent client	Cache [Note 16]	Web seeding [Note 17]	Broad-catching (RSS)	Prioritization	Selective downloads	Sequential downloading	SOCKS	Tracker exchange [65]	Remote control via web	Search engine	Auto updates	Notes
ABC	No	Yes	No	Yes	No		No	No	Yes	Separate download	No	
Acquisition	No	No	No	No	No		No	No	No	No	No	3 torrents max, infinity when registered
BitComet	Yes	Yes [66]	Beta	Yes	Yes	Yes [Note 18]	Yes	No	Yes	Built-in Web browser	Yes	Portable version available
BitLet	No	No	No	No	No		No	No	No	No	Yes	
BitLord	Yes	No	Yes	Yes	Yes		Yes	No	No	Built-in Web browser	Yes	
Bits on Wheels	No	No	No	No	No		No	No	No	No	No	
BitTornado	Yes	Yes	No	Yes	Yes		No	No	No	No	via PMS	
BitTorrent 5, Mainline	No	Yes	No	Yes	Yes		No	No	No	Yes	Yes	
BitTorrent 6	Yes	Yes	Yes	Yes	Yes		Yes	No	Yes	Yes	Yes	
BitTyrant	Yes	Yes [67]	Plugin	Yes	Yes		Yes	No	Plugin[Note 19]	3rd party plugins	Yes	Upload priority optimized according to a series of research papers
Blog Torrent	No	No	No	No	No		No	No	No	No	No	
Deluge	Yes	No	Plugin	Yes	Yes		Yes	No	Yes	No	via PMS	
FlashGet	No	No	No	No	No		No	No	No	No	No	FlashGet (standalone application) is *not* FlashGot (Firefox Addon)
Free Download Manager	No	No	No	Yes	Yes		No	No	Yes	No	Optional	
KTorrent	Yes	Yes	Yes	Yes	Yes	Yes[68]	Yes	No	Yes	Built-in Web browser	via PMS	
LimeWire	Yes	Yes	No	Yes	Yes		Yes	No	No	No	Yes	
Meerkat Bittorrent Client	Yes	No	No	No	No		No	No	No	No	No	
MLDonkey	Yes	No	3rd party bash script	Yes	No		No[69]	No	Yes	Built-in Web browser	via PMS	
						since						

µTorrent	Yes	Yes[70]	Yes[71]	Yes[72]	Yes	v3.0 [Note 20]	Yes	No	Yes	Yes	Yes	
OneSwarm	Yes	Yes	No	Yes	Yes		Yes	No	No	No	Yes	Based on Azureus, has all BitTyrant features
Opera	No	No	Yes[Note 21]	No	No		No	No	No	built-into Web browser	Windows and Mac OS X only; via PMS on Linux	Web browser
qBittorrent	Yes	Yes	Yes	Yes	Yes	Yes[73]	Yes	Yes	Yes	Yes	via PMS	
rTorrent	Partial	No	3rd party utility[74]	Yes	Yes		No	No	Yes	No	via PMS	No built-in disk cache but a delayed sync
Shareaza	Yes	Yes	No	Yes	Yes[Note 22]	Available in mod client	No	since v2.5.3.1 [75][Note 23]	Yes	Yes	Yes	[Note 24]
SymTorrent	No	No	No	No	No		No	No	No	No	No	BitTorrent client for cell phones
Tomato Torrent	No	No	No	No	No		No	No	No	No	No	supports AppleScript
Tonido Torrent	No	No	No	Yes	Yes		No	No	Yes	No	Yes	
Torrent Swapper	Yes	Yes	Yes	Yes	Yes		No	No	Yes	Built-in Web browser	Yes	
TorrentFlux	Yes	Yes	Yes	Yes	Yes		No	No	Yes	Yes	No	
Transmission	Yes	Yes	No	Yes	Yes		No	No	Yes	No	Yes	
Tribler	Yes	Yes	Yes	Yes	Yes		No	No	Partial	Yes	Yes	Fully distributed keyword search; integrated anti-spam measures[76]
Vuze (formerly Azureus)	Yes	Yes [67]	Yes	Yes	Yes		Yes	No	Plugin[Note 19]	Yes	Yes	
Vuze Plus (shareware)	Yes	Yes [67]	Yes	Yes	Yes	Yes [Note 25]	Yes	No	Plugin[Note 19]	Yes	Yes	
Xunlei						In v0.1.0.0						
BitTorrent client	**Cache**	**Web seeding**	**Broad-catching (RSS)**	**Prioritization**	**Selective downloads**	**Sequential downloading**	**SOCKS**	**Tracker exchange**	**Remote control via web**	**Search engine**	**Auto updates**	**Notes**

1. ^ a b Announcements to the tracker are made via IPv6 if possible, but the client doesn't listen on the respective port.
2. ^ Qdbus interface
3. ^ Automatically configure port forwarding (requires Router with UPnP support)
4. ^ Many clients claim to support this, but just UPnP calls for opening a TCP port is not effective and disabled by factory default in most new hardware. "UDP NAT Traversal" is the proper working solution, supported by just a few.
5. ^ DHT permits use of trackerless torrents (with supporting clients) to resume normal torrents when their tracker is down. However, some trackers that register their users for keeping tabs on fair usage (such as a ratio of bytes downloaded to uploaded) may not reliably measure and update usage for users employing DHT.
6. ^ a b c Tracker included with Linux binaries and with source, but not with Windows binary.
7. ^ a b Exchanging with BT 6 and µTorrent clients (and now MooPolice).
8. ^ It's UDP based, an experimental feature and only supported by other Azureus based clients.

9. ^ a b c Has its own DHT, a mainline-DHT compatible implementation is available as plugin.
10. ^ µTorrent's DHT implementation is the same as Mainline and BitComet's, but unfortunately this is incompatible with Azureus's implementation.
11. ^ Since Shareaza v2.6.0.0, Shareaza includes Mainline DHT support. Also, Shareaza can use the Gnutella2 network to find other Gnutella2 clients sharing the same torrent. This also includes clients who do not actively seed the torrent in question anymore, as long as file hashes (such as sha1 for example) are known.
12. ^ Since Shareaza v2.5.5.1 r9064.
13. ^ Exchanges with µTorrent and Azureus peers.
14. ^ Since version 2.5.0.2. It's UDP based, an experimental feature and only supported by other Azureus clients.
15. ^ Since version 2.5.0.2. It's UDP based, an experimental feature and only supported by other Azureus clients.
16. ^ Reduces disk usage, file fragmentation (in case it is not preallocated) and latencies via larger written blocks and cached data for hash checking finished pieces.
17. ^ Recently implemented (unofficial) web seeding feature, see HTTP-Based Seeding Specification
18. ^ Called "preview mode"
19. ^ a b c Provides a Java-based and a simple HTML/JS based WebUI.
20. ^ Called "Streaming mode". The number of pieces to download sequentially is configurable
21. ^ Opera has a feed aggregator that displays feeds like emails.
22. ^ Since Shareaza v2.4.0.2 r7924.
23. ^ Shareaza also uses G2 to transmit download metadata, such as BitTorrent trackers to other G2 clients.
24. ^ Maximum active torrent number depends on respective user settings and is limited to 31.
25. ^ Called "Play Now"

Vulnerabilities [edit]

This comparison of unpatched publicly known vulnerabilities in latest stable version clients is based on vulnerabilities reports by SecurityFocus and Secunia. See computer security for more details about the importance of unpatched known flaws.

BitTorrent client	Known unpatched vulnerabilities					
	Secunia					SecurityFocus
	Extremely critical (number / oldest)	Highly critical (number / oldest)	Moderately critical (number / oldest)	Less critical (number / oldest)	Not critical (number / oldest)	Total (number / oldest)
BitComet	0	0	0	0	0	0
BitLord	0	0	0	0	0	Unknown
BitTornado	0	0	0	0	0	Unknown
BitTorrent	0	0	0	0	0	0
BitTorrent DNA	0	0	0	0	0	0
BitTyrant	0	0	0	0	0	Unknown
Deluge	0	0	0	0	0	0
FlashGet	0	0	0	0	0	1 13 August 2008; 5 years ago
Free Download Manager	0	0	0	0	0	0
FrostWire	0	0	0	0	0	Unknown
KTorrent	0	0	0	0	0	0
Libtorrent (Rasterbar)	0	0	0	0	0	0
LimeWire	0	0	0	0	0	0
Miro	0	0	0	0	0	1 26 February 2008; 6 years ago
MLDonkey	0	0	0	0	1 5 November 2003; 10 years ago	1 23 February 2009; 5 years ago
µTorrent for Mac	0	0	0	0	0	0
µTorrent for Windows	0	0	0	0	0	0
Opera	0	0	0	0	0	0
Shareaza	0	0	0	0	0	0
Tomato						

Torrent	0	0	0	0	0	Unknown
TorrentFlux	0	0	1 23 April 2008; 6 years ago	0	0	2 18 April 2008; 6 years ago
Transmission	0	0	0	0	0	0
Vuze (formerly Azureus)	0	0	0	0	0	1 22 June 2006; 7 years ago
Wyzo	0	0	0	0	0	Unknown
Xunlei	0	2 28 September 2007; 6 years ago	0	0	0	1 17 November 2007; 6 years ago
BitTorrent client	**Extremely critical (number / oldest)**	**Highly critical (number / oldest)**	**Moderately critical (number / oldest)**	**Less critical (number / oldest)**	**Not critical (number / oldest)**	**Total (number / oldest)**
	Secunia					**SecurityFocus**
	Known unpatched vulnerabilities					

Libraries [edit]

General

BitTorrent library	First public release date	Latest stable	Software license
libtorrent (Rasterbar)	September 8, 2005; 8 years ago[80]	0.16.16 (March 23, 2014; 50 days ago) [±]	Free software
MonoTorrent	September 2006; 7 years ago	0.90 (May 22, 2010; 3 years ago) [±]	Free software
rTorrent (libTorrent Rakshasa)	July 15, 2004; 9 years ago[81]	rTorrent 0.9.2 / libTorrent 0.13.2 (23 October 2012; 18 months ago) [±][33]	Free software
BitTorrent library	**First public release date**	**Latest stable**	**Software license**

Operating system support and programming language

BitTorrent library	Linux/Unix	Windows	OS X	API	Programming language
libtorrent (Rasterbar)	Yes	Yes	Yes	Yes	C++
MonoTorrent	Yes	Yes	Yes	Yes	C#
rTorrent (libTorrent Rakshasa)	Yes	No	Yes	Yes	C++
BitTorrent library	**Linux/Unix**	**Windows**	**OS X**	**API**	**Programming language**

Supported features 1

BitTorrent library	Super-seeding	Tracker	UPnP [Note 1]	NAT Port Mapping Protocol	NAT traversal [Note 2]	DHT [Note 3]	Peer exchange	Encryption	UDP tracker	LPD	Fast extensions	Magnet URI
libtorrent (Rasterbar)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes[82]	Yes	Yes
MonoTorrent	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
rTorrent (libTorrent Rakshasa)	Yes	Yes	No	?	?	Yes	Yes	Yes	Yes	?	No	Yes
BitTorrent library	**Super-seeding**	**Tracker**	**UPnP**	**NAT Port Mapping Protocol**	**NAT traversal**	**DHT**	**Peer exchange**	**Encryption**	**UDP tracker**	**LPD**	**Fast extensions**	**Magnet URI**

Supported features 2

BitTorrent library	Cache[Note 4]	Web seeding [Note 5]	Broadcatching (RSS)	Prioritization	Selective downloads	SOCKS	Remote control via web	Engine	Notes
libtorrent (Rasterbar)	Yes	Yes	No	Yes	Yes	Yes	Yes	?	
MonoTorrent	Yes	Yes	Yes	Yes	Yes	No	Yes	No	
rTorrent									No built-in cache-disk

(libTorrent Rakshasa)	Partial	No	No	Yes	Yes	No	Yes	No	cache but a delayed sync
BitTorrent library	**Cache**	**Web seeding**	**Broadcatching (RSS)**	**Prioritization**	**Selective downloads**	**SOCKS**	**Remote control via web**	**Engine**	**Notes**

Notes [edit]

1. ^ Automatically configure port forwarding (requires Router with UPnP support)
2. ^ Many clients claim to support this, but just UPnP calls for opening a TCP port is not effective and disabled by factory default in most new hardware. "UDP NAT Traversal" is the proper working solution, supported by just a few.
3. ^ DHT permits use of trackerless torrents (with supporting clients) to resume normal torrents when their tracker is down. However, some trackers that register their users for keeping tabs on fair usage (such as a ratio of bytes downloaded to uploaded) may not reliably measure and update usage for users employing DHT.
4. ^ Reduces disk usage, file fragmentation (in case it is not preallocated) and latencies due to larger written blocks and cached data for hash checking finished pieces.
5. ^ Recently implemented (unofficial) web seeding feature, see HTTP-Based Seeding Specification

See also [edit]

- Anonymous P2P
- BitTorrent tracker
- Comparison of BitTorrent sites
- Comparison of BitTorrent tracker software
- Comparison of file sharing applications
- File sharing
- Open Music Model
- Timeline of file sharing

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External links [edit]

- User-ranked list of bittorrent clients
- BitTorrent at DMOZ
- Article suggesting that a BitTorrent client is installed on more than 13% of Windows desktop PCs

v· t· e·	BitTorrent
Companies	BitTorrent, Inc. · Vuze, Inc. ·
People	Eric Klinker · Bram Cohen · Ashwin Navin · Ross Cohen ·
Technology	Broadcatching · Distributed hash tables · DNA · index · Peer exchange · Protocol encryption · Super-seeding · Tracker · Vocabulary · Torrent file · µTP ·

Clients (comparison, usage share)	BitTorrent (original client) · BitComet · BitSpirit · BitTornado · Deluge · FrostWire · KTorrent · LimeWire · Miro · MLDonkey · qBittorrent · rTorrent · Shareaza · Transmission · Tribler · µTorrent · Vuze (formerly Azureus) · Xunlei · libtorrent (library) ·
Tracker software (comparison)	opentracker · PeerTracker · XBT Tracker · EasyTracker ·
Open Trackers	OpenBitTorrent · PublicBitTorrent ·
Search engines (comparison)	BTDigg · Burnbit · Demonoid · d2 · EZTV · KickassTorrents · Mininova · Seedpeer · The Pirate Bay · Torrentz · yourBittorrent · YouTorrent · What.CD · BitSnoop ·
Defunct websites	isoHunt · FlixFlux · BTJunkie · LokiTorrent · OiNK · TorrentSpy · Suprnova · BitGamer ·
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